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## PATENT SPECIFICATION



Application Date: June 28, 1932. No. 18,204/32.

402,507

Complete Left: June 28, 1933.

Complete Accepted: Dec. 7, 1933.

PROVISIONAL SPECIFICATION.

### Improvements in Electric Couplings.

I, WILLIAM SEVER, M.Sc., a British Subject, of "Armada", King's Road, Bramhope, Leeds, in the County of York, do hereby declare the nature of this invention to be as follows:—

This invention relates to electric plug and socket couplings and connectors, having conducting pins frictionally engaging conducting sockets.

According to the present invention there is provided a plug, the pins of which are provided with one or more detachable concentric enlargement sleeves of conducting material, whereby they are rendered capable of engagement with sockets of different dimensions.

Preferably the sleeves are flanged at their lower ends and secured to the base of the plug by pressure from a plate member apertured to fit over the pins. Means are preferably provided whereby the distance or distances between two or more pins of the plug may be adjusted to correspond with differently spaced sockets.

A further feature of the invention consists in the provision of a plug having a base of insulating material provided with apertures through which conducting pins project, one or more of the apertures being in the form of slots whereby the position of the pins in such slots may be varied as required and having means to secure the pins whether carrying enlargement sleeves or not in the desired positions. The pins are preferably secured in their slots by the plate member provided to secure the sleeves.

In a preferred form of the invention the plug consists of a body of insulating material, which may be shaped, for example as a parallelopiped or a cylinder, to the base of which a plate member of similar insulating material is attached by a central binding screw. A conducting pin is suitably attached to the body of insulating material and protrudes from

one end in a direction parallel to the axis of the insulating base, passing through a suitable aperture in the plate member. A slot is also provided in the end of the insulating base adapted to hold adjustably a similar pin at the desired distance from the other pin. A similar slot is provided in the base plate for the passage therethrough of the pin. Each pin carries one or more concentric sleeves each provided with a flange at one end which rests between the insulating base and the plate member and may be securely clamped by the tightening of the binding screw. Each sleeve is made of such internal and external dimensions as to make a good electrical contact with the other contiguous sleeves. The sleeves are preferably provided with longitudinal slits or any other suitable known means of imparting to them the necessary resilience to obtain a good electrical contact. In order to obtain engagement between the plug and any given socket the base plate is removed or loosened and partly rotated and one or more sleeves either placed on the pins or removed from them until the external diameter corresponds with the sockets. The position of the movable pin and its sleeves, situated in the slot of the insulating base is altered until the distance apart of the pin corresponds with the distance between the sockets. The plate member is then clamped tightly against the insulating base by the binding screw and the conducting sleeves are firmly held in position by the pressure thus applied to the flanges. It will be understood that this invention is not limited to plugs provided with pins of cylindrical form but also applied to those provided with pins of substantially rectangular or other cross-section.

Dated this 27th day of June, 1932.

W. P. THOMPSON & Co.,  
12, Church Street, Liverpool,  
Chartered & Registered Patent Agents.

COMPLETE SPECIFICATION.

### Improvements in Electric Couplings.

I, WILLIAM SEVER, M.Sc., a British Subject, of "Armada", King's Road, Bramhope, Leeds, in the County of York, do hereby declare the nature of this

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invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

5 This invention relates to electric plug and socket couplings and connectors, having conducting pins frictionally engaging conducting sockets.

According to the present invention  
10 there is provided a plug, the pins of which are provided with one or more detachable concentric enlargement sleeves of conducting material, whereby they are rendered capable of engagement with  
15 sockets of different dimensions.

Preferably the sleeves are flanged at their lower ends and secured to the base of the plug by pressure from a plate member apertured to fit over the pins.

20 It is known to provide plugs with means whereby the distance or distances between two or more pins of the plug may be adjusted to correspond with differently spaced sockets.

25 The invention also includes plugs in which means are provided whereby the distance or distances between two or more pins of the plug may be adjusted to correspond with differently spaced sockets, and in which one or more detachable enlargement sleeves of conducting material are provided for fitting on to the pins whereby said pins are rendered  
30 capable of engagement with sockets of different dimensions.

35 A further feature of the invention consists in the provision of a plug having a base of insulating material provided with apertures through which conducting pins project, one or more of the apertures  
40 being in the form of slots whereby the position of the pins in such slots may be varied as required and having means to secure the pins whether carrying enlargement sleeves or not in the desired positions.  
45 The pins are preferably secured in their slots by the plate member provided to secure the sleeves.

A preferred form of the invention is illustrated in the accompanying drawings, in which:

Figure 1 is a sectional side elevation of the various parts of plug in position for assembly.

55 Figures 2—5 are front views of the main parts, and

Figure 6 is an assembled view of the plug.

In these drawings, the plug consists  
60 of a body 1 of insulating material, which may be shaped, for example as a parallelopiped or a cylinder, to the base of which an end member 2 of similar insulating material having end flanges 3,  
65 is attached by a central binding screw

5 engaging an internally threaded metal sleeve 5 held in a tubular insulating member 4. A conducting pin 7 is suitably attached to an insulating plate 8 having a slot through which passes the head of a similar pin 9 carried on another insulating plate 10. A similar slot is provided in the plate 10 for the passage therethrough of the pin 7. Each pin carries two concentric sleeves 11 and 12 each provided with a flange at one end which rests between the plate 10 and the end member 2 and may be securely clamped by the tightening of the binding screw 6. Each sleeve is made of such internal and external dimensions as to make a good electrical contact with the other contiguous sleeves. The sleeves are preferably provided with longitudinal  
75 slits or any other suitable known means of imparting to them the necessary resilience to obtain a good electrical contact. In order to obtain engagement between the plug and any given socket the end member 2 is removed or loosened and partly rotated and one or more sleeves either placed on the pins or removed from them until the external diameter corresponds with the sockets. The position of the movable pin and its sleeves, situated in the slot of the insulating plates is altered until the distance apart of the pin corresponds with the distance between the sockets. The end member 2 is then clamped tightly against plates 10 and 8 and the insulating base 1 by the binding screw and the conducting sleeves are firmly held in position by the pressure thus applied to the flanges.  
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It will be understood that this invention is not limited to plugs provided with pins of cylindrical form but also applied to those provided with pins of substantially rectangular or other cross-section.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. An electric plug coupling in which the pins are provided with one or more detachable concentric enlargement sleeves of conducting material, whereby they are rendered capable of engagement with sockets of different dimensions.

2. Flanged expansible conducting enlargement sleeves for use in plugs as in Claim 1.

3. An electric plug coupling in which the distance between the pins is adjustable and in which one or more detachable enlargement sleeves of conducting material are provided for fitting on to the pins whereby said pins are rendered capable of engagement with sockets of  
120

different dimensions.

4. Plugs as claimed in claim 1 in which the sleeves are enlarged at their lower ends.

5 5. Plugs as claimed in Claim 1 having a base, slotted plates and an end member, all connected by a central pin.

6. Electric plugs substantially as described.

Dated this 27th day of June, 1933.

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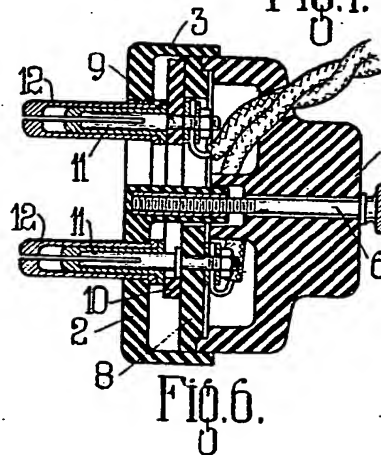
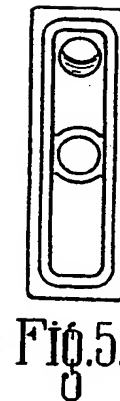
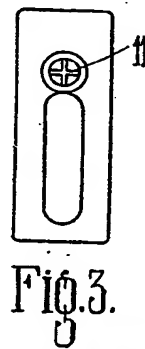
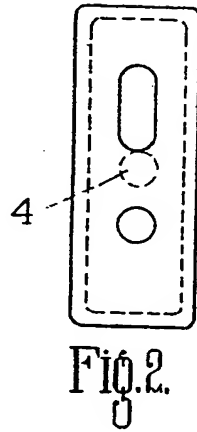
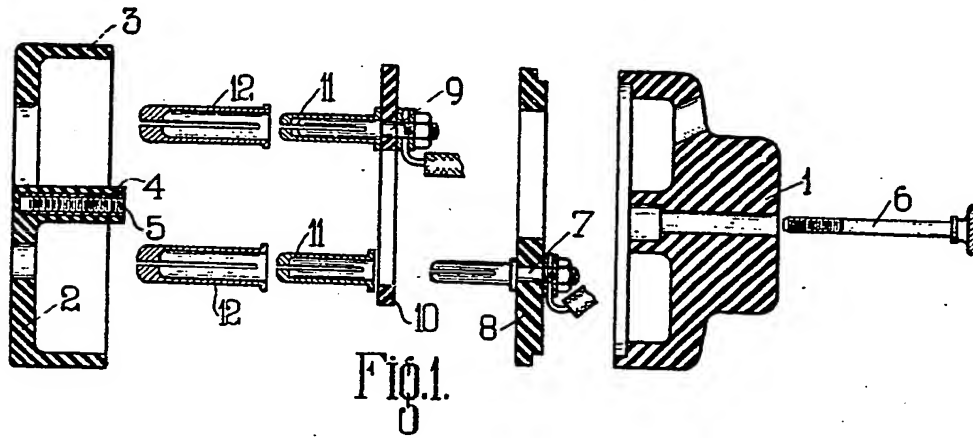
Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.—1933.

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1 SHEET

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